

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of  
**MONDET et al.**

Serial No. **09/848,237**

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Atty. Ref.: **2365-3**

Group: **1619**

Examiner:

For: **PROCESS FOR INCREASING THE PERSISTENCE OF  
AT LEAST ONE COSMETIC EFFECT AND/OR CARE  
EFFECT OF A COSMETIC COMPOSITION, COSMETIC  
COMPOSITION AND USE THEREOF**

**November 23, 2001**

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

**PENDING CLAIMS**

1. Process for increasing the persistence of at least one cosmetic and/or care effect of a cosmetic composition comprising an oily phase, comprising incorporating into the composition an effective amount of at least one linear or cyclic polyorganosiloxane comprising at least two organosiloxy units and at least two side groups or end groups each capable of forming at least one hydrogen bond with one or more partner groups.

2. Process according to Claim 1, wherein the polyorganosiloxane comprises at least two organosiloxy units represented by the following formula:



in which:

R represents a linear, branched or cyclic alkyl group, an aryl group, a polyether group or a fluoro group,

R' represents a group capable of forming at least one hydrogen bond,

a is 1, 2 or 3, and

b is 0 or 1, with the proviso that a+b is equal to 2 or 3.

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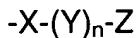
3. Process according to Claim 1 wherein the polyorganosiloxane comprises from 2 to 50,000 organosiloxy units.

4. Process according to Claim 1, wherein the side groups or end groups are each capable of forming at least two hydrogen bonds with one or more partner groups.

5. Process according to Claim 2 wherein R' is selected from the group consisting of:

(a) a group derived from an unprotected or a partially protected amino acid, and

(b) a carboxylic acid, an amine or a phenol group of formula:



in which:

X represents a linear, branched or cyclic spacer alkylene or alkenylene chain, optionally comprising one or more hetero atoms in the chain,

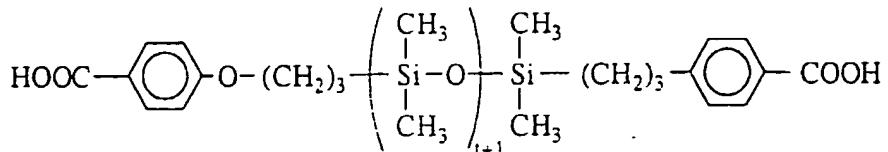
Y represents a monocyclic or polycyclic divalent unsaturated hydrocarbon-based group or a divalent unsaturated heterocyclic group, these polycyclic or heterocyclic groups optionally comprising up to 4 fused rings,

n represents an integer ranging from 1 to 4, and

Z represents a -COOH or -OH group or a primary, secondary or tertiary amine group, the nitrogen atom of which optionally forms part of a heterocyclic group Y.

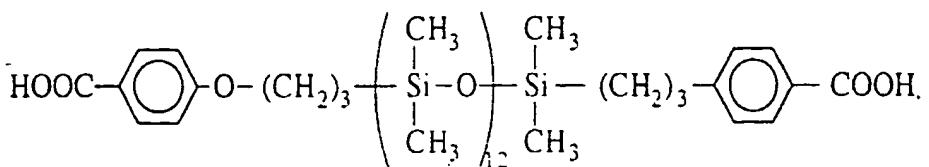
6. Process according to Claim 5, wherein Y represents a 6-membered aromatic nucleus and Z represents a -COOH group.

7. Process according to Claim 6, wherein the polyorganosiloxane is represented by the following formula:



with t preferably ranging from 1 to 1200.

8. Process according to Claim 7, wherein the polyorganosiloxane is represented by the following formula:



9. Process according to Claim 5, wherein, when Z represents an amine group, the nitrogen atom forms part of a heterocyclic group Y, and Y-Z represents a pyridyl group.

10. Process according to Claim 1, wherein the effective amount of the polyorganosiloxane is between 0.5% and 50% by weight relative to the total weight of the cosmetic composition.

11. Process according to Claim 10, wherein the effective amount of the polyorganosiloxane is between 1% and 30% by weight relative to the total weight of the cosmetic composition.

12. Process according to Claim 1, wherein the oily phase comprises at least one hydrocarbon-based oil and/or at least one silicone oil.

13. Process according to Claim 12, wherein the oily phase contains at least one volatile or non-volatile silicone oil.

14. Process according to Claim 12, wherein the silicone oil is selected from the group consisting of polydimethylsiloxanes (PDMSs), that are optionally phenylated; polymethylphenylsiloxanes, optionally substituted with aliphatic and/or aromatic groups, or optionally fluorinated; polysiloxanes modified with fatty acids, fatty alcohols or polyoxyalkylenes; fluorosilicones and perfluorosilicone oils.

15. Process according to Claim 14, wherein the silicone oil is selected from the group consisting of polydimethylsiloxanes, polymethylphenylsiloxanes, silicones comprising polyoxyalkylene blocks or grafts, silicones bearing both hydrophobic hydrocarbon-based groups and polyoxyethylenated or copoly(oxyethylenated/oxypropylenated) blocks or grafts, and silicones bearing fluoro or perfluoro groups.

16. Process according to Claim 1, wherein said polyorganosiloxane increases the persistence of the colouring effect and/or gloss of a lipstick, a mascara or an eyeliner.

17. Process according to Claim 1, wherein said polyorganosiloxane increases the persistence of the matt-effect and/or colouring effect of foundations, powders, blushers, eyeshadows or body make-up.

18. Process according to Claim 1, wherein said polyorganosiloxane increases the persistence of an active care agent for moisturizing products, deodorants or antiperspirants.

19. Cosmetic composition comprising an oily phase which comprises at least one volatile or non-volatile silicone oil, to which is added an effective amount of at least one linear or cyclic polyorganosiloxane comprising at least two organosiloxy units and at least two side groups or end groups which are each capable of forming at least one hydrogen bond with one or more partner groups, wherein said organosiloxy units are represented by the following formula:



in which:

R represents a linear, branched or cyclic alkyl group, an aryl group, a polyether group or a fluoro group,

R' represents a group capable of forming at least one hydrogen bond,

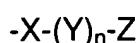
a is 1, 2 or 3, and

b is 0 or 1, with the proviso that a+b is equal to 2 or 3,

R' represents :

(a) a group derived from an unprotected or a partially protected amino acid, and

(b) a carboxylic acid, an amine or a phenol group of formula:



in which:

X represents a linear, branched or cyclic spacer alkylene or alkenylene chain, optionally comprising one or more hetero atoms in the chain,

Y represents a monocyclic or polycyclic divalent unsaturated hydrocarbon-based group or a divalent unsaturated heterocyclic group, these polycyclic or heterocyclic groups possibly comprising up to 4 fused rings,

n represents an integer ranging from 1 to 4, and

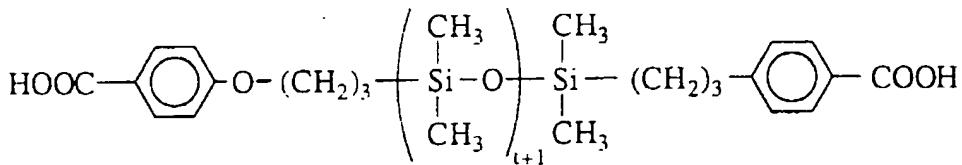
Z represents a -COOH or -OH group or a primary, secondary or tertiary amine group, the nitrogen atom of which optionally forms part of the heterocyclic group Y.

20. Cosmetic composition according to Claim 19, wherein the polyorganosiloxane comprises from 2 to 50,000 organosiloxy units.

21. Cosmetic composition according to Claim 19, wherein the side groups or end groups are each capable of forming at least two hydrogen bonds with one or more partner groups.

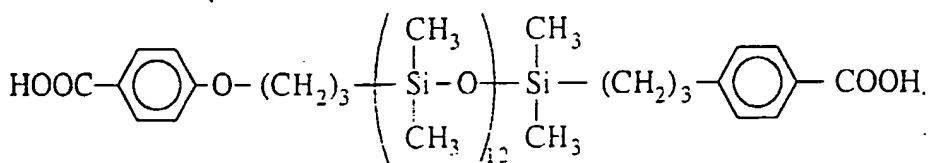
22. Cosmetic composition according to Claim 19, wherein Y represents a 6-membered aromatic nucleus and Z represents a -COOH group.

23. Cosmetic composition according to Claim 22, wherein the polyorganosiloxane is represented by the following formula:



with t preferably ranging from 1 to 1200.

24. Cosmetic composition according to Claim 23, wherein the polyorganosiloxane is represented by the following formula:



25. Cosmetic composition according to Claim 19 wherein, when Z represents an amine group, the nitrogen atom forms part of a heterocyclic group Y, and Y-Z represents a pyridyl group.

26. Cosmetic composition according to Claim 19, wherein the effective amount of the polyorganosiloxane is between 0.5% and 50% by weight relative to the total weight of the cosmetic composition.

27. Cosmetic composition according to Claim 26, wherein the effective amount of the polyorganosiloxane is between 1% and 30% by weight relative to the total weight of the cosmetic composition.

28. Cosmetic composition according to Claim 19, wherein the oily phase also comprises at least one hydrocarbon-based oil.

29. Cosmetic composition according to Claim 19, wherein the silicone oil is selected from the group consisting of polydimethylsiloxanes (PDMSs), that are optionally phenylated; polymethylphenylsiloxanes, optionally substituted with aliphatic and/or aromatic groups, or optionally fluorinated; polysiloxanes modified with fatty acids, fatty alcohols or polyoxyalkylenes; fluorosilicones and perfluorosilicone oils.

30. Cosmetic composition according to Claim 29, wherein the silicone oil is selected from the group consisting of polydimethylsiloxanes, polymethylphenylsiloxanes, silicones comprising polyoxyalkylene blocks or grafts, silicones bearing both hydrophobic hydrocarbon-based groups and polyoxyethylenated or copoly(oxyethylenated/oxypropylenated) blocks or grafts, and silicones bearing fluoro or perfluoro groups.

31. Cosmetic composition according to Claim 19, further comprising at least one of a filler, a pigment, a colorant, a surfactant, a sunscreen, a natural wax, a synthetic wax, an anti-oxidant, a fragrance and a preserving agent.

32. Cosmetic composition according to Claim 19, wherein said composition is anhydrous.

33. Cosmetic composition according to Claim 19, in the form of a stick, a tube, in the form of a soft paste, with a dynamic viscosity at 25°C of about from 1 to 40 Pa.s, in the form of a dish, an oily gel or an oily liquid.

34. A method of making up and/or caring for the skin comprising applying a composition of claim 19 to said skin.

35. Cosmetic composition according to Claim 19, in the form of a lipstick, a mascara, an eyeliner, a foundation, a powder, a blusher, an eyeshadow or a body make-up.

36. Cosmetic composition according to Claim 19, in the form of a moisturizing product, a deodorant or an antiperspirant.

37. A process according to Claim 1, wherein incorporating said polyorganosiloxane increases the persistence of the colouring effect and/or gloss of a lipstick, a mascara or an eyeliner.

38. A process according to Claim 1, wherein incorporating said polyorganosiloxane increases the persistence of the matt effect and/or colouring effect of a foundation, a powder, a blusher, an eyeshadow or a body make-up.

39. A process according to Claim 1, wherein incorporating said polyorganosiloxane increases the persistence of the care effect of a moisturizing product.

40. Cosmetic composition according to claim 19, in the form of a deodorant or an antiperspirant.

41. A process according to claim 3 wherein said polyorganosiloxane comprises from 2 to 30,000 organosiloxyl units.

42. A process of claim 14 wherein the silicone oil is selected from the group consisting of a phenyltrimethicone, a phenyltrimethyl siloxydiphenylsiloxane, a diphenylmethyldimethyltrisiloxane, a diphenyldimethicone, and a phenyldimethicone.

43. A process according to claim 15 wherein said polyoxyalkylene blocks or grafts are polyoxyethylene or copoly(oxyethylene/oxypropylene) block or grafts, said hydrocarbon-based groups are C<sub>2</sub>-C<sub>30</sub> groups, said polyoxyethylenated or copoly(oxyethylenated/oxypropylenated) blocks or grafts are alkyldimethicone copolyols, and said silicones bearing perfluoro groups are perfluoroalkyl polydimethylsiloxanes or perfluoroalkyl polymethylphenylsiloxanes.

44. A composition of Claim 20 wherein said polyorganosiloxane comprises from 2 to 30,000 organosiloxy units.

45. A composition of Claim 30 wherein said polyoxyalkylene blocks or grafts are polyoxyethylene or copoly(oxyethylene/oxypropylene) block or grafts, said hydrocarbon-based groups are C<sub>2</sub>-C<sub>30</sub> groups, said polyoxyethylenated or copoly(oxyethylenated/oxypropylenated) blocks or grafts are alkyldimethicone copolyols, and said silicones bearing perfluoro groups are perfluoroalkyl polydimethylsiloxanes or perfluoroalkyl polymethylphenylsiloxanes.

46. A method of Claim 34 wherein said skin is eyelids, lips or nails.